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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,677	10/17/2003	Cheng-Hung Yu	NAUP0495USA	2676

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(NAIPC) NORTH AMERICA INTERNATIONAL PATENT OFFICE
P.O. BOX 506
MERRIFIELD, VA 22116

EXAMINER

YOUNG, CHRISTOPHER G

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 12/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/605,677

Applicant(s)

YU, CHENG-HUNG

Examiner

Christopher G. Young

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Ota, US Patent Number 5,942,357.

This instant application claims are drawn to a reticle alignment procedure employed on a semiconductor wafer, a surface of the semiconductor wafer comprising a cell pattern area and a minor pattern area, the minor pattern area comprising at least one pre-layer wafer alignment mark (pre-layer wafer AM) transferred onto the semiconductor wafer from a pre-layer reticle-alignment mark (pre-layer reticle AM) on a pre-layer reticle, the reticle alignment procedure comprising: providing a current-layer reticle, the current-layer reticle comprising at least one current-layer reticle alignment mark (current-layer reticle AM) and a circuit pattern; performing a baseline check (BCHK) to align the current-layer reticle AM with the pre-layer wafer AM; capturing and comparing image signals of the current layer reticle AM and the pre-layer wafer AM to calibrate a corresponding coordinate of the current-layer reticle to the semiconductor wafer; and performing a lithography process to simultaneously transfer layouts of the circuit pattern and the current-layer reticle AM onto the semiconductor wafer to form a current-layer wafer alignment mark (current-layer wafer AM) within the minor pattern

area of the semiconductor wafer corresponding to the current-layer reticle alignment mark.

Ota describes, teaches and suggests all of the essential requirements of the claimed invention. Claim 12 is drawn to a method for determining an optimum baseline amount for an alignment sensor in an exposure apparatus for multiple-level exposure in which a photosensitive substrate is exposed at a plurality of positions disposed along an optical axis of the exposure apparatus adjacent to a best focused image, a baseline amount representing a positional relationship between a reference point with respect to which the alignment sensor detects a position of an alignment mark on the photosensitive substrate and a position of an image to be formed on the photosensitive substrate by the exposure apparatus, the method comprising the steps of: moving a fiducial mark relative to the best focused image in a direction substantially parallel to the optical axis of the projection optical system, the fiducial mark being moved to a plurality of vertical positions adjacent to the best focused image; at each of the plurality of vertical positions of the fiducial mark, detecting the fiducial mark through the alignment sensor to derive a baseline amount representing a position of the reference point of the alignment sensor relative to the position of the image which would be formed on the photosensitive if located at that vertical position; and processing data representing the baseline amounts detected at the plurality of vertical positions of the fiducial mark to derive the optimum baseline amount suitable for multiple-level exposure of the photosensitive substrate.

A more thorough description is given in the Specification at column 6, line 32, through column 7, line 44. Also at column 10, line 40, through column 11, line 5.

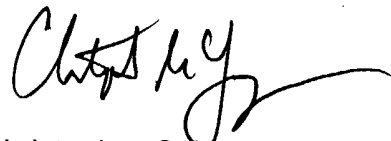
Based on this claim, and the teachings elaborated on in the specification, claims 1-10 are anticipated by Ota.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher G. Young whose telephone number is 571-272-1394. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Christopher G. Young
Primary Examiner
Art Unit 1756